



SEQUENCE LISTING

<110> McLachlan, Karen
Glaser, Scott
Peach, Robert
Rowe, Anthony

<120> Compositions and Methods for Treating Cancer Using IGSF9 and
LIV-1

<130> 2159.0030001

<140> US 10/764,604

<141> 2004-01-27

<150> US 60/442,535

<151> 2003-01-27

<160> 43

<170> PatentIn version 3.2

<210> 1

<211> 3490

<212> DNA

<213> Homo sapiens

<400> 1

atggtgtggt gcctcggcct ggccgtcttc agcctgggtca tcagccaggg ggctgacggt	60
cgagggaagc ctgaggtggt atcggtggtg ggccgggctg aggagagtgt ggtgctgggc	120
tgtgacctgc tgcccccggc cggccggccc cccctgcatg tcatcgagtg gctgcgcttt	180
ggattcctgc ttcccatctt catccagttc ggctctact ctccccgaat tgaccctgat	240
tacgtgggac gagtccggt gcagaagggg gcctctctcc agattgaggg tctccgggtg	300
gaagaccagg gctggtacga gtgccgcgtg ttcttccttg accagcacat ccctgaagac	360
gattttgcta acggctcctg ggtgcatctg acagtcaatt caccctca attccaggag	420
acacctcctg ctgtgttgga agtgcaggaa ctggagcctg tgaccctgcg ttgtgtggcc	480
cgtggcagcc cctgcctca tgtgacgtgg aagctccgag gaaaggacct tggccagggc	540
cagggccagg tgcaagtga gaacgggacg ctgcggatcc gccgggtaga gcgaggcagc	600
tctggggtct acacctgcca agcctccagc actgagggca gcgccacca cgccaccag	660
ctgctagtgc taggaccccc agtcatcgtg gtgccccca agaacagcac agtcaatgcc	720
tcccaggatg ttccattggc ctgccatget gaggcatacc ctgctaacct cacctacagc	780
tggttcagg acaacatcaa tgtcttcac attagccgcc tgcagccccg ggtgcagatc	840
ctggtggacg ggagcctgcg gctgctggcc accagcctg atgatgccg ctgctacacc	900
tgtgtgccc gcaatggcct cctgcatcca cctcagcct ctgcctacct cactgtgctc	960
tgcatgccg gggatgatcc ctgccgggt cgtgccaaacc cccactgct ctttgtcagc	1020

tggaccaagg	atggaaaggc	cctgcagctg	gacaagttcc	ctggctggtc	ccagggcaca	1080
gaaggctcac	tgatcatcgc	cctggggaac	gaggatgccc	tgggagaata	ctcctgcacc	1140
ccctacaaca	gtcttggtac	cgccgggccc	tctcctgtga	cccgcgtgct	gctcaaggct	1200
ccccagctt	ttatagagcg	gccaagga	gaatatttcc	aagaagtagg	gcgggagctg	1260
ctcatcccct	gctccgccc	aggggacct	cctcctgttg	tctcttggac	caagggtggc	1320
cgggggctgc	aaggccaggc	ccagggtggac	agcaacagca	gcctcatcct	gcgaccattg	1380
accaaggagg	cccacgggca	ctgggaatgc	agtgccagca	atgctgtggc	ccgagtggcc	1440
acctccacga	acgtctacgt	gctggggcact	accctcatgt	tgtcaccaat	gtgtccgtgg	1500
tggctttgcc	caagggtgcc	aatgtctcct	gggagcctgg	ctttgatggg	ggttatctgc	1560
agagattcag	tgtctggtac	acccactgg	ccaagcgtcc	tgaccgaatg	caccatgact	1620
gggtgtcctt	ggcagtgctt	gtgggggctg	ctcacctcct	agtgccaggg	ctgcagcccc	1680
acaccagta	ccagttcagc	gtgctagctc	agaacaagct	ggggagtggg	cccttcagcg	1740
aaatcgtctt	gtctgctccg	gaagggtctt	ctaccacgcc	agctgcaccc	gggcttcccc	1800
caacagagat	accgcctccc	ctgtccccct	cgcgggggtct	gggtggcagt	aggacacccc	1860
gggggggtact	cctgcattgg	gatccccag	agctgggtccc	taagagactg	gatgggtacg	1920
tcttggaagg	ccggcaaggc	tcccagggt	gggaggtgct	ggacccggct	gtggcaggca	1980
cagaaacaga	gctgctgggtg	ccaggcctca	tcaaggatgt	tctctacgag	ttccgcctcg	2040
tggccttcgc	gggcagcttc	gtcagcgacc	ccagcaacac	ggccaacgtc	tccacttcgg	2100
gtctggaggt	ctacccttcg	cgcacgcagc	tgccgggcct	cctgcctcag	cccgtgctgg	2160
ccggcggtgg	gggcggagtc	tgccttcttg	gagtggccgt	ccttgtgagc	atcctggccg	2220
gctgcctcct	gaaccggcgc	agggctgccc	gccgccgccg	caagcgctc	cgccaagatc	2280
cacctcttat	cttctctccg	accgggaagt	cagctgcacc	ctctgctctg	ggctcaggca	2340
gtcctgacag	cgtggcgaag	ctgaagctcc	agggatcccc	agtcccagc	ctgcgccaga	2400
gtctgctctg	gggggatcct	gccggaactc	ccagccccca	cccggatcct	ccatctagcc	2460
ggggaccctt	acctctggag	cccatttgcc	ggggcccaga	cgggcgcttt	gtgatggggc	2520
ccactgtggc	ggccccccag	gaaaggctcag	gccgggagca	ggcagaacct	cggactccag	2580
cccagcgtct	ggccccgtcc	tttgactgta	gcagcagcag	ccccagtggg	gcaccccagc	2640
ccctctgcat	tgaagacatc	agccctgtgg	cacccctccc	agcagcccca	cccagtcctt	2700
tgccaggctc	tggacccctg	ctccagtacc	tgagcctgcc	cttcttccga	gagatgaatg	2760
tggatgggga	ctggcccccg	cttgaggagc	ccagccctgc	tgcaccccc	gattacatgg	2820

```

ataccggcg ctgtcccacc tcattcttcc ttcgtttctcc agaaaccctt cctgtatccc 2880
ccaggaatc acttcctggg gctgtggtag gggctggggc cactgcagag ccccttaca 2940
agccctggct gactggacac tgagggagcg gctgctgcca ggccttctcc ctgctgcccc 3000
tcgaggcagc ctcaccagcc agagcagcgg gcgaggcagc gcttcgttcc tgcggccccc 3060
ctccacagcc ccctctgcag gaggcagcta cctcagccct gctccaggag acaccagcag 3120
ctgggccagt ggccctgaga gatggccccg aaggagcat gtggtgacag tcagcaagag 3180
gaggaacaca tctgtggacg agaactatga gtgggactca gaattccctg gggacatgga 3240
attgctggag actttgcacc tgggcttggc cagctcccgg ctcagacctg aagctgagac 3300
agagctaggt gtgaagactc cagaggaggg ctgcctcctg aacactgccc atgttactgg 3360
ccctgaggcc cgctgtgctg cccttcggga ggaattcctg gccttcgcc gccgccgaga 3420
tgctactagg gctcggctac cagcctatcg acagccagtc cccacccccg aacaggccac 3480
tctgctgtga 3490

```

```

<210> 2
<211> 1163
<212> PRT
<213> Homo sapiens

```

```

<400> 2

```

```

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
1          5          10          15

```

```

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
20          25          30

```

```

Ala Glu Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
35          40          45

```

```

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
50          55          60

```

```

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
65          70          75          80

```

```

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
85          90          95

```

```

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
100          105          110

```

```

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val

```

115		120		125
His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala				
130		135		140
Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala				
145		150		155
Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp				
	165		170	175
Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg				
	180		185	190
Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala				
	195		200	205
Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu				
	210		215	220
Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala				
225		230		235
Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn				
	245		250	255
Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser				
	260		265	270
Arg Leu Gln Pro Arg Val Gln Ile Leu Val Asp Gly Ser Leu Arg Leu				
	275		280	285
Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser				
	290		295	300
Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu				
305		310		315
Cys Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu				
	325		330	335
Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys				
	340		345	350
Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu				
	355		360	365

Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 370 375 380

Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 385 390 395 400

Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 405 410 415

Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 420 425 430

Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 435 440 445

Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala
 450 455 460

His Gly His Trp Glu Cys Ser Ala Ser Asn Ala Val Ala Arg Val Ala
 465 470 475 480

Thr Ser Thr Asn Val Tyr Val Leu Gly Thr Ser Pro His Val Val Thr
 485 490 495

Asn Val Ser Val Val Ala Leu Pro Lys Gly Ala Asn Val Ser Trp Glu
 500 505 510

Pro Gly Phe Asp Gly Gly Tyr Leu Gln Arg Phe Ser Val Trp Tyr Thr
 515 520 525

Pro Leu Ala Lys Arg Pro Asp Arg Met His His Asp Trp Val Ser Leu
 530 535 540

Ala Val Pro Val Gly Ala Ala His Leu Leu Val Pro Gly Leu Gln Pro
 545 550 555 560

His Thr Gln Tyr Gln Phe Ser Val Leu Ala Gln Asn Lys Leu Gly Ser
 565 570 575

Gly Pro Phe Ser Glu Ile Val Leu Ser Ala Pro Glu Gly Leu Pro Thr
 580 585 590

Thr Pro Ala Ala Pro Gly Leu Pro Pro Thr Glu Ile Pro Pro Pro Leu
 595 600 605

Ser Pro Pro Arg Gly Leu Val Ala Val Arg Thr Pro Arg Gly Val Leu
 610 615 620

Leu His Trp Asp Pro Pro Glu Leu Val Pro Lys Arg Leu Asp Gly Tyr
 625 630 635 640

Val Leu Glu Gly Arg Gln Gly Ser Gln Gly Trp Glu Val Leu Asp Pro
 645 650 655

Ala Val Ala Gly Thr Glu Thr Glu Leu Leu Val Pro Gly Leu Ile Lys
 660 665 670

Asp Val Leu Tyr Glu Phe Arg Leu Val Ala Phe Ala Gly Ser Phe Val
 675 680 685

Ser Asp Pro Ser Asn Thr Ala Asn Val Ser Thr Ser Gly Leu Glu Val
 690 695 700

Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Val Leu
 705 710 715 720

Ala Gly Val Val Gly Gly Val Cys Phe Leu Gly Val Ala Val Leu Val
 725 730 735

Ser Ile Leu Ala Gly Cys Leu Leu Asn Arg Arg Arg Ala Ala Arg Arg
 740 745 750

Arg Arg Lys Arg Leu Arg Gln Asp Pro Pro Leu Ile Phe Ser Pro Thr
 755 760 765

Gly Lys Ser Ala Ala Pro Ser Ala Leu Gly Ser Gly Ser Pro Asp Ser
 770 775 780

Val Ala Lys Leu Lys Leu Gln Gly Ser Pro Val Pro Ser Leu Arg Gln
 785 790 795 800

Ser Leu Leu Trp Gly Asp Pro Ala Gly Thr Pro Ser Pro His Pro Asp
 805 810 815

Pro Pro Ser Ser Arg Gly Pro Leu Pro Leu Glu Pro Ile Cys Arg Gly
 820 825 830

Pro Asp Gly Arg Phe Val Met Gly Pro Thr Val Ala Ala Pro Gln Glu
 835 840 845

Arg Ser Gly Arg Glu Gln Ala Glu Pro Arg Thr Pro Ala Gln Arg Leu
 850 855 860

Ala Arg Ser Phe Asp Cys Ser Ser Ser Ser Pro Ser Gly Ala Pro Gln
 865 870 875 880

Pro Leu Cys Ile Glu Asp Ile Ser Pro Val Ala Pro Pro Pro Ala Ala
 885 890 895

Pro Pro Ser Pro Leu Pro Gly Pro Gly Pro Leu Leu Gln Tyr Leu Ser
 900 905 910

Leu Pro Phe Phe Arg Glu Met Asn Val Asp Gly Asp Trp Pro Pro Leu
 915 920 925

Glu Glu Pro Ser Pro Ala Ala Pro Pro Asp Tyr Met Asp Thr Arg Arg
 930 935 940

Cys Pro Thr Ser Ser Phe Leu Arg Ser Pro Glu Thr Pro Pro Val Ser
 945 950 955 960

Pro Arg Glu Ser Leu Pro Gly Ala Val Val Gly Ala Gly Ala Thr Ala
 965 970 975

Glu Pro Pro Tyr Thr Ala Leu Ala Asp Trp Thr Leu Arg Glu Arg Leu
 980 985 990

Leu Pro Gly Leu Leu Pro Ala Ala Pro Arg Gly Ser Leu Thr Ser Gln
 995 1000 1005

Ser Ser Gly Arg Gly Ser Ala Ser Phe Leu Arg Pro Pro Ser Thr
 1010 1015 1020

Ala Pro Ser Ala Gly Gly Ser Tyr Leu Ser Pro Ala Pro Gly Asp
 1025 1030 1035

Thr Ser Ser Trp Ala Ser Gly Pro Glu Arg Trp Pro Arg Arg Glu
 1040 1045 1050

His Val Val Thr Val Ser Lys Arg Arg Asn Thr Ser Val Asp Glu
 1055 1060 1065

Asn Tyr Glu Trp Asp Ser Glu Phe Pro Gly Asp Met Glu Leu Leu
 1070 1075 1080

Glu Thr Leu His Leu Gly Leu Ala Ser Ser Arg Leu Arg Pro Glu

1085		1090		1095
Ala Glu Thr Glu Leu Gly Val Lys Thr Pro Glu Glu Gly Cys Leu				
1100		1105		1110
Leu Asn Thr Ala His Val Thr Gly Pro Glu Ala Arg Cys Ala Ala				
1115		1120		1125
Leu Arg Glu Glu Phe Leu Ala Phe Arg Arg Arg Arg Asp Ala Thr				
1130		1135		1140
Arg Ala Arg Leu Pro Ala Tyr Arg Gln Pro Val Pro His Pro Glu				
1145		1150		1155
Gln Ala Thr Leu Leu				
1160				

<210> 3
 <211> 2862
 <212> DNA
 <213> Homo sapiens

<400> 3
 atggtgtggt gcctcggcct ggccgtcctc agcctgggtca tcagccaggg ggctgacggt 60
 cgagggaagc ctgaggtggt atcgggtggtg ggccgggctg aggagagtgt ggtgctgggc 120
 tgtgacctgc tgcccccggc cgcccgcccc ccctgcatg tcatcgagtg gctgcgcttt 180
 ggattcctgc ttcccatctt catccagttc ggctctact ctccccgaat tgacctgat 240
 tacgtgggac gagtccggct gcagaagggg gcctctctcc agattgaggg tctccgggtg 300
 gaagaccagg gctggtacga gtgcgcgtg ttcttctggt accagcacat ccctgaagac 360
 gattttgcta acggctcctg ggtgcatctg acagtcaatt caccacctca attccaggag 420
 acacctcctg ctgtgttgga agtgcaggaa ctggagcctg tgacctgcg ttgtgtggcc 480
 cgtggcagcc ccctgcctca tgtgacgtgg aagctccgag gaaaggacct tggccagggc 540
 cagggccagg tgcaagtgca gaacgggacg ctgcggatcc gccgggtaga gcgaggcagc 600
 tctggggtct acacctgcca agcctccagc actgagggca gcgccacca cgccaccag 660
 ctgctagtgc taggaccccc agtcatcgtg gtgccccca agaacagcac agtcaatgcc 720
 tcccaggatg ttccattggc ctgccatgct gaggcatacc ctgctaacct cacctacagc 780
 tggttccagg acaacatcaa tgtcttccac attagccgcc tgcagccccg ggtgcagatc 840
 ctggtggacg ggagcctgcg gctgctggcc acccagcctg atgatgccgg ctgctacacc 900
 tgtgtgccca gcaatggcct cctgcatcca ccctcagcct ctgcctacct cactgtgctc 960

tgcatgccgg	gggtgatccg	ctgccccggtt	cgtgcccaacc	ccccactgct	ctttgtcagc	1020
tggaccaagg	atggaaaggc	cctgcagctg	gacaagttcc	ctggctggtc	ccagggcaca	1080
gaaggctcac	tgatcatcgc	cctgggggaac	gaggatgccc	tgggagaata	ctcctgcacc	1140
ccctacaaca	gtcttggtac	cgccgggccc	tctcctgtga	cccgcgtgct	gctcaaggct	1200
ccccagctt	ttatagagcg	gcccgaaggaa	gaatatttcc	aagaagtagg	gcgggagctg	1260
ctcatccct	gctccgccc	aggggaccct	cctcctgttg	tctcttgga	caagggtggc	1320
cgggggctgc	aaggccaggc	ccagggtggac	agcaacagca	gcctcatcct	gcgaccattg	1380
accaaggagg	cccacgggca	ctgggaatgc	agtgccagca	atgctgtggc	ccgagtggcc	1440
acctccacga	acgtctacgt	gctggggcact	agccctcatg	ttgtcaccaa	tgtgtccgtg	1500
gtggctttgc	ccaaggggtgc	caatgtctcc	tgggagcctg	gctttgatgg	tggttatctg	1560
cagagattca	gtgtctggta	cacccccactg	gccaagcgtc	ctgaccgaat	gcaccatgac	1620
tgggtgtcct	tggcagtgcc	tgtgggggct	gctcacctcc	tagtgccagg	gctgcagccc	1680
cacacccagt	accagttcag	cgtgctagct	cagaacaagc	tggggagtgg	tcccttcagc	1740
gaaatcgtct	tgtctgctcc	ggaagggcctt	cctaccacgc	cagctgcacc	cgggcttccc	1800
ccaacagaga	taccgcctcc	cctgtccccct	ccgcgggggtc	tgggtggcagt	gaggacaccc	1860
cgggggggtac	tcctgcattg	ggatccccca	gagctggctc	ctaagagact	ggatggctac	1920
gtcttggaag	gccggcaagg	ctcccagggc	tgggaggtgc	tggacccggc	tgtggcaggc	1980
acagaaacag	agctgctggg	gccaggcctc	atcaaggatg	ttctctacga	gttcgcctc	2040
gtggccttcg	cgggcagctt	cgtcagcgac	cccagcaaca	cggccaacgt	ctccacttcc	2100
ggtctggagg	tctacccttc	gcgcacgcag	ctgccggggc	tcctgcctca	gccctctagc	2160
caggagccca	aaagctctga	caaaactcac	acatccccac	cgccccagc	acctgaactc	2220
ctgggggggac	cgtcagtctt	cctcttcccc	ccaaaacca	aggacaccct	catgatctcc	2280
cggacccttg	aggtcacatg	cgtgggtggg	gacgtgagcc	acgaagaccc	tgagggtcaag	2340
ttcaactggg	acgtggacgg	cgtggagggtg	cataatgcc	agacaaagcc	gcgggaggag	2400
cagtacaaca	gcacgtaccg	tgtgggtcagc	gtcctcaccg	tcctgcacca	ggactggctg	2460
aatggcaagg	agtacaagtg	caagggtctcc	aacaaagccc	tcccagcccc	catcgagaaa	2520
accatctcca	aagccaaagg	gcagccccga	gaaccacagg	tgtacaccct	gcccccatcc	2580
cgggatgagc	tgaccaagaa	ccagggtcagc	ctgacctgcc	tgggtcaaagg	cttctatccc	2640
agcgacatcg	ccgtggagtg	ggagagcaat	gggcagccgg	agaacaacta	caagaccacg	2700
cctcccgtgc	tggactccga	cggctccttc	ttcctctaca	gcaagctcac	cgtggacaag	2760
agcagggtggc	agcaggggaa	cgtctttctca	tgctccgtga	tgcatgaggc	tctgcacaac	2820

cactacacgc agaagagcct ctccctgtct ccgggtaa at ga

2862

<210> 4
 <211> 953
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
 1 5 10 15

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
 20 25 30

Ala Glu Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
 35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
 50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
 65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
 85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
 100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
 115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
 130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
 145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
 165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
 180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
 195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

Arg Leu Gln Pro Arg Val Gln Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

Cys Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 325 330 335

Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 340 345 350

Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 355 360 365

Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 370 375 380

Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 385 390 395 400

Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 405 410 415

Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 420 425 430

Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 435 440 445

Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala
 450 455 460

His Gly His Trp Glu Cys Ser Ala Ser Asn Ala Val Ala Arg Val Ala
 465 470 475 480

Thr Ser Thr Asn Val Tyr Val Leu Gly Thr Ser Pro His Val Val Thr
 485 490 495

Asn Val Ser Val Val Ala Leu Pro Lys Gly Ala Asn Val Ser Trp Glu
 500 505 510

Pro Gly Phe Asp Gly Gly Tyr Leu Gln Arg Phe Ser Val Trp Tyr Thr
 515 520 525

Pro Leu Ala Lys Arg Pro Asp Arg Met His His Asp Trp Val Ser Leu
 530 535 540

Ala Val Pro Val Gly Ala Ala His Leu Leu Val Pro Gly Leu Gln Pro
 545 550 555 560

His Thr Gln Tyr Gln Phe Ser Val Leu Ala Gln Asn Lys Leu Gly Ser
 565 570 575

Gly Pro Phe Ser Glu Ile Val Leu Ser Ala Pro Glu Gly Leu Pro Thr
 580 585 590

Thr Pro Ala Ala Pro Gly Leu Pro Pro Thr Glu Ile Pro Pro Pro Leu
 595 600 605

Ser Pro Pro Arg Gly Leu Val Ala Val Arg Thr Pro Arg Gly Val Leu
 610 615 620

Leu His Trp Asp Pro Pro Glu Leu Val Pro Lys Arg Leu Asp Gly Tyr
 625 630 635 640

Val Leu Glu Gly Arg Gln Gly Ser Gln Gly Trp Glu Val Leu Asp Pro
 645 650 655

Ala Val Ala Gly Thr Glu Thr Glu Leu Leu Val Pro Gly Leu Ile Lys
 660 665 670

Asp Val Leu Tyr Glu Phe Arg Leu Val Ala Phe Ala Gly Ser Phe Val
 675 680 685

Ser Asp Pro Ser Asn Thr Ala Asn Val Ser Thr Ser Gly Leu Glu Val
 690 695 700
 Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Ser Ser
 705 710 715 720
 Gln Glu Pro Lys Ser Ser Asp Lys Thr His Thr Ser Pro Pro Ser Pro
 725 730 735
 Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 740 745 750
 Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 755 760 765
 Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 770 775 780
 Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 785 790 795 800
 Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 805 810 815
 Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 820 825 830
 Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 835 840 845
 Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu
 850 855 860
 Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 865 870 875 880
 Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 885 890 895
 Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 900 905 910
 Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 915 920 925
 Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln

930

935

940

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 945 950

<210> 5
 <211> 2910
 <212> DNA
 <213> Homo sapiens

<400> 5
 atggtgtggt gcctcggcct ggccgtcctc agcctgggtca tcagccaggg ggctgacggt 60
 cgagggaagc ctgaggtggt atcgggtggtg ggccgggctg aggagagtgt ggtgctgggc 120
 tgtgacctgc tgcccccgcc cgcccgcccc cccctgcatg tcatcgagtg gctgcgcttt 180
 ggattcctgc ttcccatctt catccagttc ggctctact ctccccgaat tgaccctgat 240
 tacgtgggac gagtccggct gcagaagggg gcctctctcc agattgaggg tctccgggtg 300
 gaagaccagg gctggtacga gtgccgcgtg ttcttcctgg accagcacat ccctgaagac 360
 gattttgcta acggctcctg ggtgcatctg acagtcaatt caccacctca attccaggag 420
 acacctcctg ctgtgttgga agtgcaggaa ctggagcctg tgaccctgcg ttgtgtggcc 480
 cgtggcagcc ccctgcctca tgtgacgtgg aagctccgag gaaaggacct tggccagggc 540
 cagggccagg tgcaagtgca gaacgggacg ctgcggatcc gccgggtaga gcgaggcagc 600
 tctgggggtct acacctgcca agcctccagc actgagggca gcgccaccca cgccacccag 660
 ctgctagtgc taggaccccc agtcatcgtg gtgcccccca agaacagcac agtcaatgcc 720
 tcccaggatg ttccattggc ctgccatgct gaggcatacc ctgctaacct cacctacagc 780
 tggttccagg acaacatcaa tgtcttcac attagccgcc tgcagccccg ggtgcagatc 840
 ctggtggacg ggagcctgcg gctgctggcc acccagcctg atgatgccgg ctgctacacc 900
 tgtgtgcca gcaatggcct cctgcatcca ccctcagcct ctgcctacct cactgtgctc 960
 taccagccc aggtgacagc tatgcctcct gagacacccc tgcccatagg catgccgggg 1020
 gtgatccgct gcccggttcg tgccaacccc ccactgctct ttgtcagctg gaccaaggat 1080
 ggaaaggccc tgcagctgga caagtccct ggctgggtccc agggcacaga aggtcactg 1140
 atcatcgccc tggggaacga ggatgcctg ggagaatact cctgcacccc ctacaacagt 1200
 cttggtaccg ccgggccctc tcctgtgacc cgcgtgctgc tcaaggctcc ccagctttt 1260
 atagagcggc ccaaggaaga atatttccaa gaagtagggc gggagctgct catccccctgc 1320
 tccgccaag gggacctcc tcctgttgtc tcttgacca aggtgggccc ggggctgcaa 1380
 ggccaggccc aggtggacag caacagcagc ctcatcctgc gaccattgac caaggaggcc 1440

```

cacgggcact ggggaatgcag tgccagcaat gctgtggccc gagtggccac ctccacgaac 1500
gtctacgtgc tgggcactag cccatcatgtt gtcaccaatg tgtccgtggt ggctttgccc 1560
aagggtgcca atgtctcctg ggagcctggc tttgatggtg gttatctgca gagattcagt 1620
gtctggtaca cccactggc caagcgtcct gaccgaatgc accatgactg ggtgtccttg 1680
gcagtgcctg tgggggctgc tcacctccta gtgccagggc tgcagcccca caccagtac 1740
cagttcagcg tgctagctca gaacaagctg gggagtggtc ccttcagcga aatcgtcttg 1800
tctgctccgg aagggttcc taccacgcca gctgcacccg ggcttcccc aacagagata 1860
ccgcctcccc tgtccctcc gcgggggtctg gtggcagtga ggacaccccg ggggggtactc 1920
ctgcattggg atccccaga gctgggtccct aagagactgg atggctacgt cttggaaggc 1980
cggcaaggct cccagggtg ggaggtgctg gaccggctg tggcaggcac agaaacagag 2040
ctgctggtgc caggcctcat caaggatgtt ctctacgagt tccgcctcgt ggcttccg 2100
ggcagcttcg tcagcgacct cagcaacacg gccaacgtct ccacttccgg tctggaggtc 2160
tacccttcgc gcacgcagct gccgggcctc ctgcctcagc cctctagcca ggagcccaaa 2220
agctctgaca aaactcacac atccccaccg tccccagcac ctgaactcct ggggggaccg 2280
tcagtcttcc tcttcccccc aaaacccaag gacacctca tgatctcccg gaccctgag 2340
gtcacatgcg tgggtggtgga cgtgagccac gaagacctg aggtcaagtt caactggtac 2400
gtggacggcg tggaggtgca taatgccaag acaaagccgc gggaggagca gtacaacagc 2460
acgtaccgtg tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa tggcaaggag 2520
tacaagtgca aggtctccaa caaagccctc ccagcccca tcgagaaaac catctccaaa 2580
gcaaagggc agccccgaga accacaggtg tacacctgc cccatcccg ggatgagctg 2640
accaagaacc aggtcagcct gacctgcctg gtcaaaggct tctatcccag cgacatcgcc 2700
gtggagtggg agagcaatgg gcagccggag aacaactaca agaccacgcc tcccgtgctg 2760
gactccgacg gctccttctt cctctacagc aagctcaccg tggacaagag cagggtggcag 2820
caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag 2880
aagagcctct ccctgtctcc gggtaaatga 2910

```

```

<210> 6
<211> 969
<212> PRT
<213> Homo sapiens

<400> 6

```

```

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
1          5          10          15

```

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
 20 25 30

Ala Glu Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
 35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
 50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
 65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
 85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
 100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
 115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
 130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
 145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
 165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
 180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
 195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

Arg Leu Gln Pro Arg Val Gln Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr Pro Leu Pro Ile
 325 330 335

Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 340 345 350

Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 355 360 365

Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 370 375 380

Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 385 390 395 400

Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 405 410 415

Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 420 425 430

Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 435 440 445

Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 450 455 460

Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala
 465 470 475 480

His Gly His Trp Glu Cys Ser Ala Ser Asn Ala Val Ala Arg Val Ala
 485 490 495

Thr Ser Thr Asn Val Tyr Val Leu Gly Thr Ser Pro His Val Val Thr

500	505	510
Asn Val Ser Val Val Ala Leu Pro Lys Gly Ala Asn Val Ser Trp Glu 515 520 525		
Pro Gly Phe Asp Gly Gly Tyr Leu Gln Arg Phe Ser Val Trp Tyr Thr 530 535 540		
Pro Leu Ala Lys Arg Pro Asp Arg Met His His Asp Trp Val Ser Leu 545 550 555 560		
Ala Val Pro Val Gly Ala Ala His Leu Leu Val Pro Gly Leu Gln Pro 565 570 575		
His Thr Gln Tyr Gln Phe Ser Val Leu Ala Gln Asn Lys Leu Gly Ser 580 585 590		
Gly Pro Phe Ser Glu Ile Val Leu Ser Ala Pro Glu Gly Leu Pro Thr 595 600 605		
Thr Pro Ala Ala Pro Gly Leu Pro Pro Thr Glu Ile Pro Pro Pro Leu 610 615 620		
Ser Pro Pro Arg Gly Leu Val Ala Val Arg Thr Pro Arg Gly Val Leu 625 630 635 640		
Leu His Trp Asp Pro Pro Glu Leu Val Pro Lys Arg Leu Asp Gly Tyr 645 650 655		
Val Leu Glu Gly Arg Gln Gly Ser Gln Gly Trp Glu Val Leu Asp Pro 660 665 670		
Ala Val Ala Gly Thr Glu Thr Glu Leu Leu Val Pro Gly Leu Ile Lys 675 680 685		
Asp Val Leu Tyr Glu Phe Arg Leu Val Ala Phe Ala Gly Ser Phe Val 690 695 700		
Ser Asp Pro Ser Asn Thr Ala Asn Val Ser Thr Ser Gly Leu Glu Val 705 710 715 720		
Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Ser Ser 725 730 735		
Gln Glu Pro Lys Ser Ser Asp Lys Thr His Thr Ser Pro Pro Ser Pro 740 745 750		

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 755 760 765

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 770 775 780

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 785 790 795 800

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 805 810 815

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 820 825 830

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 835 840 845

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 850 855 860

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu
 865 870 875 880

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 885 890 895

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 900 905 910

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 915 920 925

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 930 935 940

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 945 950 955 960

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 965

<210> 7
 <211> 3540
 <212> DNA

<213> Homo sapiens

<400> 7

atggtgtggt gcctcggcct ggccgtcctc agcctgggtca tcagccaggg ggctgacggt	60
cgaggggaagc ctgaggtggt atcgggtggtg ggccgggctg gggagagtgt ggtgctgggc	120
tgtgacctgc tgcccccggc cggccggccc cccctgcatg tcatcgagtg gctgcgcttt	180
ggattcctgc ttcccatctt catccagttc ggctctact ctccccgaat tgaccctgat	240
tacgtgggac gagtccggct gcagaagggg gcctctctcc agattgaggg tctccgggtg	300
gaagaccagg gctggtacga gtgccgcgtg ttcttcctgg accagcacat ccctgaagac	360
gattttgcta acggctcctg ggtgcatctg acagtcaatt caccacctca attccaggag	420
acacctcctg ctgtgttgga agtgcaggaa ctggagcctg tgacctgcg ttgtgtggcc	480
cgtggcagcc ccctgcctca tgtgacgtgg aagctccgag gaaaggacct tggccagggc	540
cagggccagg tgcaagtgca gaacgggacg ctgcggatcc gccgggtaga gcgaggcagc	600
tctggggtct acacctgcca agcctccagc actgagggca gcgccacca cgccaccag	660
ctgctagtgc taggaccccc agtcatcgtg gtgccccca agaacagcac agtcaatgcc	720
tcccaggatg ttccattggc ctgccatgct gaggcatacc ctgctaacct cacctacagc	780
tggttccagg acaacatcaa tgtcttcac attagccgcc tgcagccccg ggtgcggatc	840
ctggtggacg ggagcctgcg gctgctggcc acccagcctg atgatgccgg ctgctacacc	900
tgtgtgcca gcaatggcct cctgcatcca ccctcagcct ctgcctacct cactgtgctc	960
taccagccc aggtgacagc tatgcctcct gagacacccc tgcccatagg catgccgggg	1020
gtgatccgct gcccggttcg tgccaacccc ccactgctct ttgtcagctg gaccaaggat	1080
ggaaaggccc tgcagctgga caagtccct ggctggctcc agggcacaga aggtcactg	1140
atcatcgccc tggggaacga ggatgccctg ggagaatact cctgcacccc ctacaacagt	1200
cttgggtaccg ccgggccctc tcctgtgacc cgcgtgctgc tcaaggctcc ccagctttt	1260
atagagcggc ccaaggaaga atatttccaa gaagtagggc gggagctgct catcccctgc	1320
tccgccaag gggaccctcc tcctgttgct tcttgacca aggtgggccc ggggctgcaa	1380
ggccaggccc aggtggacag caacagcagc ctcatcctgc gaccattgac caaggaggcc	1440
cacgggcact gggaatgcag tgccagcaat gctgtggccc gagtggccac ctccacgaac	1500
gtctacgtgc tgggcactag ccctcatgtt gtcaccaatg tgtccgtggt ggctttgccc	1560
aagggtgcca atgtctcctg ggagcctggc tttgatggtg gttatctgca gagattcagt	1620
gtctgtgaca cccactggc caagcgtcct gaccgaatgc accatgactg ggtgtccttg	1680
gcagtgcctg tgggggctgc tcacctccta gtgccagggc tgcagccca caccagtac	1740

cagttcagcg	tgctagctca	gaacaagctg	gggagtggtc	ccttcagcga	aatcgtcttg	1800
tctgctccgg	aagggcttcc	taccacgcca	gctgcacccg	ggcttcccc	aacagagata	1860
ccgcctcccc	tgccccctcc	gcgggggtctg	gtggcagtga	ggacacccccg	gggggtactc	1920
ctgcattggg	atccccccaga	gctgggtccct	aagagactgg	atggctacgt	cttggaaggc	1980
cggcaaggct	cccagggctg	ggaggtgctg	gacccggctg	tggcaggcac	agaaacagag	2040
ctgctgggtg	caggcctcat	caaggatgtt	ctctacgagt	tccgcctcgt	ggccttcgcg	2100
ggcagcttcg	tcagcgaccc	cagcaacacg	gccaacgtct	ccacttcogg	tctggaggtc	2160
tacccttcgc	gcacgcagct	gccggggcctc	ctgcctcagc	ccgtgctggc	cggcgtgggtg	2220
ggcggagtct	gctttctggg	agtggccgtc	cttgtgagca	tcttgccgg	ctgcctcctg	2280
aaccggcgca	gggctgcccc	ccgccggccg	aagcgccctc	gccaagatcc	acctcttatc	2340
ttctctccga	ccgggaagtc	agctgcaccc	tctgctctgg	gctcaggcag	tcttgacagc	2400
gtggcgaagc	tgaagctcca	gggatcccca	gtccccagcc	tgcgccagag	tctgctctgg	2460
ggggatcctg	ccggaactcc	cagccccccac	ccggatcctc	catctagccg	gggaccctta	2520
cctctggagc	ccatttgccg	gggcccagac	gggcgctttg	tgatggggcc	cactgtggcg	2580
gccccccagg	aaaggtcagg	ccgggagcag	gcagaacctc	ggactccagc	ccagcgtctg	2640
gcccggtcct	ttgactgtag	cagcagcagc	cccagtgggg	caccccagcc	cctctgcatt	2700
gaagacatca	gccctgtggc	acccccctcca	gcagccccac	ccagtccctt	gccaggtcct	2760
ggacccctgc	tccagtacct	gagcctgccc	ttcttccgag	agatgaatgt	ggatggggac	2820
tggcccccg	ttgaggagcc	cagccctgct	gcacccccag	attacatgga	taccggcg	2880
tgtcccacct	catctttcct	tcgtttctcca	gaaacccctc	ctgtatcccc	cagggaatca	2940
cttcctgggg	ctgtggtagg	ggctggggcc	actgcagagc	ccccttacac	agccctggct	3000
gactggacac	tgaggagagc	gctgctgcca	ggccttctcc	ctgctgcccc	togaggcagc	3060
ctcaccagcc	agagcagtgg	gcgaggcagc	gcttcgttcc	tgcgggcccc	ctccacagcc	3120
ccctctgcag	gaggcagcta	cctcagccct	gctccaggag	acaccagcag	ctgggccagt	3180
ggccctgaga	gatggccccg	aaggagcat	gtggtgacag	tcagcaagag	gaggaacaca	3240
tctgtggacg	agaactatga	gtgggactca	gaattccctg	gggacatgga	attgctggag	3300
actttgcacc	tgggcttggc	cagctccccg	ctcagacctg	aagctgagcc	agagctaggt	3360
gtgaagactc	cagaggaggg	ctgcctcctg	aacactgccc	atgttactgg	ccctgaggcc	3420
cgctgtgctg	cccttcggga	ggaattcctg	gccttccgcc	gccgccgaga	tgctactagg	3480
gctcggtac	cagcctatcg	acagccagtc	ccccaccccc	aacaggccac	tctgctgtga	3540

<210> 8
 <211> 1179
 <212> PRT
 <213> Homo sapiens

<400> 8

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
 1 5 10 15

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
 20 25 30

Ala Gly Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
 35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
 50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
 65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
 85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
 100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
 115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
 130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
 145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
 165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
 180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
 195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

Arg Leu Gln Pro Arg Val Arg Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr Pro Leu Pro Ile
 325 330 335

Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 340 345 350

Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 355 360 365

Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 370 375 380

Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 385 390 395 400

Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 405 410 415

Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 420 425 430

Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 435 440 445

Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 450 455 460

Val	Asp	Ser	Asn	Ser	Ser	Leu	Ile	Leu	Arg	Pro	Leu	Thr	Lys	Glu	Ala	465	470	475	480
His	Gly	His	Trp	Glu	Cys	Ser	Ala	Ser	Asn	Ala	Val	Ala	Arg	Val	Ala	485	490	495	
Thr	Ser	Thr	Asn	Val	Tyr	Val	Leu	Gly	Thr	Ser	Pro	His	Val	Val	Thr	500	505	510	
Asn	Val	Ser	Val	Val	Ala	Leu	Pro	Lys	Gly	Ala	Asn	Val	Ser	Trp	Glu	515	520	525	
Pro	Gly	Phe	Asp	Gly	Gly	Tyr	Leu	Gln	Arg	Phe	Ser	Val	Trp	Tyr	Thr	530	535	540	
Pro	Leu	Ala	Lys	Arg	Pro	Asp	Arg	Met	His	His	Asp	Trp	Val	Ser	Leu	545	550	555	560
Ala	Val	Pro	Val	Gly	Ala	Ala	His	Leu	Leu	Val	Pro	Gly	Leu	Gln	Pro	565	570	575	
His	Thr	Gln	Tyr	Gln	Phe	Ser	Val	Leu	Ala	Gln	Asn	Lys	Leu	Gly	Ser	580	585	590	
Gly	Pro	Phe	Ser	Glu	Ile	Val	Leu	Ser	Ala	Pro	Glu	Gly	Leu	Pro	Thr	595	600	605	
Thr	Pro	Ala	Ala	Pro	Gly	Leu	Pro	Pro	Thr	Glu	Ile	Pro	Pro	Pro	Leu	610	615	620	
Ser	Pro	Pro	Arg	Gly	Leu	Val	Ala	Val	Arg	Thr	Pro	Arg	Gly	Val	Leu	625	630	635	640
Leu	His	Trp	Asp	Pro	Pro	Glu	Leu	Val	Pro	Lys	Arg	Leu	Asp	Gly	Tyr	645	650	655	
Val	Leu	Glu	Gly	Arg	Gln	Gly	Ser	Gln	Gly	Trp	Glu	Val	Leu	Asp	Pro	660	665	670	
Ala	Val	Ala	Gly	Thr	Glu	Thr	Glu	Leu	Leu	Val	Pro	Gly	Leu	Ile	Lys	675	680	685	
Asp	Val	Leu	Tyr	Glu	Phe	Arg	Leu	Val	Ala	Phe	Ala	Gly	Ser	Phe	Val	690	695	700	

Ser	Asp	Pro	Ser	Asn	Thr	Ala	Asn	Val	Ser	Thr	Ser	Gly	Leu	Glu	Val
705					710				715						720
Tyr	Pro	Ser	Arg	Thr	Gln	Leu	Pro	Gly	Leu	Leu	Pro	Gln	Pro	Val	Leu
				725					730					735	
Ala	Gly	Val	Val	Gly	Gly	Val	Cys	Phe	Leu	Gly	Val	Ala	Val	Leu	Val
			740					745					750		
Ser	Ile	Leu	Ala	Gly	Cys	Leu	Leu	Asn	Arg	Arg	Arg	Ala	Ala	Arg	Arg
		755						760				765			
Arg	Arg	Lys	Arg	Leu	Arg	Gln	Asp	Pro	Pro	Leu	Ile	Phe	Ser	Pro	Thr
	770					775					780				
Gly	Lys	Ser	Ala	Ala	Pro	Ser	Ala	Leu	Gly	Ser	Gly	Ser	Pro	Asp	Ser
785					790					795					800
Val	Ala	Lys	Leu	Lys	Leu	Gln	Gly	Ser	Pro	Val	Pro	Ser	Leu	Arg	Gln
				805					810					815	
Ser	Leu	Leu	Trp	Gly	Asp	Pro	Ala	Gly	Thr	Pro	Ser	Pro	His	Pro	Asp
			820					825					830		
Pro	Pro	Ser	Ser	Arg	Gly	Pro	Leu	Pro	Leu	Glu	Pro	Ile	Cys	Arg	Gly
		835					840						845		
Pro	Asp	Gly	Arg	Phe	Val	Met	Gly	Pro	Thr	Val	Ala	Ala	Pro	Gln	Glu
	850					855					860				
Arg	Ser	Gly	Arg	Glu	Gln	Ala	Glu	Pro	Arg	Thr	Pro	Ala	Gln	Arg	Leu
865					870					875					880
Ala	Arg	Ser	Phe	Asp	Cys	Ser	Ser	Ser	Ser	Pro	Ser	Gly	Ala	Pro	Gln
				885					890					895	
Pro	Leu	Cys	Ile	Glu	Asp	Ile	Ser	Pro	Val	Ala	Pro	Pro	Pro	Ala	Ala
			900					905						910	
Pro	Pro	Ser	Pro	Leu	Pro	Gly	Pro	Gly	Pro	Leu	Leu	Gln	Tyr	Leu	Ser
		915					920					925			
Leu	Pro	Phe	Phe	Arg	Glu	Met	Asn	Val	Asp	Gly	Asp	Trp	Pro	Pro	Leu
	930					935					940				
Glu	Glu	Pro	Ser	Pro	Ala	Ala	Pro	Pro	Asp	Tyr	Met	Asp	Thr	Arg	Arg

<210> 9
 <211> 1179
 <212> PRT
 <213> Homo sapiens

<400> 9

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
 1 5 10 15

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
 20 25 30

Ala Gly Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
 35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
 50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
 65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
 85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
 100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
 115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
 130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
 145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
 165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
 180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
 195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

 Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

 Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

 Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

 Arg Leu Gln Pro Arg Val Arg Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

 Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

 Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

 Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr Pro Leu Pro Ile
 325 330 335

 Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 340 345 350

 Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 355 360 365

 Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 370 375 380

 Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 385 390 395 400

 Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 405 410 415

 Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 420 425 430

 Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 435 440 445

 Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln

450	455	460															
Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala																	
465				470				475									480
His Gly His Trp Glu Cys Ser Ala Ser Asn Ala Val Ala Arg Val Ala																	
				485				490									495
Thr Ser Thr Asn Val Tyr Val Leu Gly Thr Ser Pro His Val Val Thr																	
			500					505						510			
Asn Val Ser Val Val Ala Leu Pro Lys Gly Ala Asn Val Ser Trp Glu																	
		515					520					525					
Pro Gly Phe Asp Gly Gly Tyr Leu Gln Arg Phe Ser Val Trp Tyr Thr																	
	530					535					540						
Pro Leu Ala Lys Arg Pro Asp Arg Met His His Asp Trp Val Ser Leu																	
545					550				555								560
Ala Val Pro Val Gly Ala Ala His Leu Leu Val Pro Gly Leu Gln Pro																	
				565				570									575
His Thr Gln Tyr Gln Phe Ser Val Leu Ala Gln Asn Lys Leu Gly Ser																	
				580				585									590
Gly Pro Phe Ser Glu Ile Val Leu Ser Ala Pro Glu Gly Leu Pro Thr																	
		595					600					605					
Thr Pro Ala Ala Pro Gly Leu Pro Pro Thr Glu Ile Pro Pro Pro Leu																	
	610					615					620						
Ser Pro Pro Arg Gly Leu Val Ala Val Arg Thr Pro Arg Gly Val Leu																	
625					630				635								640
Leu His Trp Asp Pro Pro Glu Leu Val Pro Lys Arg Leu Asp Gly Tyr																	
				645				650								655	
Val Leu Glu Gly Arg Gln Gly Ser Gln Gly Trp Glu Val Leu Asp Pro																	
			660				665								670		
Ala Val Ala Gly Thr Glu Thr Glu Leu Leu Val Pro Gly Leu Ile Lys																	
		675					680				685						
Asp Val Leu Tyr Glu Phe Arg Leu Val Ala Phe Ala Gly Ser Phe Val																	
690						695					700						

Ser Asp Pro Ser Asn Thr Ala Asn Val Ser Thr Ser Gly Leu Glu Val
 705 710 715 720

Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Val Leu
 725 730 735

Ala Gly Val Val Gly Gly Val Cys Phe Leu Gly Val Ala Val Leu Val
 740 745 750

Ser Ile Leu Ala Gly Cys Leu Leu Asn Arg Arg Arg Ala Ala Arg Arg
 755 760 765

Arg Arg Lys Arg Leu Arg Gln Asp Pro Pro Leu Ile Phe Ser Pro Thr
 770 775 780

Gly Lys Ser Ala Ala Pro Ser Ala Leu Gly Ser Gly Ser Pro Asp Ser
 785 790 795 800

Val Ala Lys Leu Lys Leu Gln Gly Ser Pro Val Pro Ser Leu Arg Gln
 805 810 815

Ser Leu Leu Trp Gly Asp Pro Ala Gly Thr Pro Ser Pro His Pro Asp
 820 825 830

Pro Pro Ser Ser Arg Gly Pro Leu Pro Leu Glu Pro Ile Cys Arg Gly
 835 840 845

Pro Asp Gly Arg Phe Val Met Gly Pro Tyr Val Ala Ala Pro Gln Glu
 850 855 860

Arg Ser Gly Arg Glu Gln Ala Glu Pro Arg Thr Pro Ala Gln Arg Leu
 865 870 875 880

Ala Arg Ser Phe Asp Cys Ser Ser Ser Ser Pro Ser Gly Ala Pro Gln
 885 890 895

Pro Leu Cys Ile Glu Asp Ile Ser Pro Val Ala Pro Pro Pro Ala Ala
 900 905 910

Pro Pro Ser Pro Leu Pro Gly Pro Gly Pro Leu Leu Gln Tyr Leu Ser
 915 920 925

Leu Pro Phe Phe Arg Glu Met Asn Val Asp Gly Asp Trp Pro Pro Leu
 930 935 940

Glu Glu Pro Ser Pro Ala Ala Pro Pro Asp Tyr Met Asp Thr Arg Arg
 945 950 955 960

Cys Pro Thr Ser Ser Phe Leu Arg Ser Pro Glu Thr Pro Pro Val Ser
 965 970 975

Pro Arg Glu Ser Leu Pro Gly Ala Val Val Gly Ala Gly Ala Thr Ala
 980 985 990

Glu Pro Pro Tyr Thr Ala Leu Ala Asp Trp Thr Leu Arg Glu Arg Leu
 995 1000 1005

Leu Pro Gly Leu Leu Pro Ala Ala Pro Arg Gly Ser Leu Thr Ser
 1010 1015 1020

Gln Ser Ser Gly Arg Gly Ser Ala Ser Phe Leu Arg Pro Pro Ser
 1025 1030 1035

Thr Ala Pro Ser Ala Gly Gly Ser Tyr Leu Ser Pro Ala Pro Gly
 1040 1045 1050

Asp Thr Ser Ser Trp Ala Ser Gly Pro Glu Arg Trp Pro Arg Arg
 1055 1060 1065

Glu His Val Val Thr Val Ser Lys Arg Arg Asn Thr Ser Val Asp
 1070 1075 1080

Glu Asn Tyr Glu Trp Asp Ser Glu Phe Pro Gly Asp Met Glu Leu
 1085 1090 1095

Leu Glu Thr Leu His Leu Gly Leu Ala Ser Ser Arg Leu Arg Pro
 1100 1105 1110

Glu Ala Glu Pro Glu Leu Gly Val Lys Thr Pro Glu Glu Gly Cys
 1115 1120 1125

Leu Leu Asn Thr Ala His Val Thr Gly Pro Glu Ala Arg Cys Ala
 1130 1135 1140

Ala Leu Arg Glu Glu Phe Leu Ala Phe Arg Arg Arg Arg Asp Ala
 1145 1150 1155

Thr Arg Ala Arg Leu Pro Ala Tyr Arg Gln Pro Val Pro His Pro
 1160 1165 1170

Glu Gln Ala Thr Leu Leu
1175

<210> 10
<211> 1163
<212> PRT
<213> Homo sapiens

<400> 10

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
1 5 10 15

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
20 25 30

Ala Glu Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

 Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

 Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

 Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

 Arg Leu Gln Pro Arg Val Gln Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

 Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

 Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

 Cys Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 325 330 335

 Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 340 345 350

 Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 355 360 365

 Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 370 375 380

 Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 385 390 395 400

 Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 405 410 415

 Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 420 425 430

 Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 435 440 445

Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala
 450 455 460

His Gly His Trp Glu Cys Ser Ala Ser Asn Ala Val Ala Arg Val Ala
 465 470 475 480

Thr Ser Thr Asn Val Tyr Val Leu Gly Thr Ser Pro His Val Val Thr
 485 490 495

Asn Val Ser Val Val Ala Leu Pro Lys Gly Ala Asn Val Ser Trp Glu
 500 505 510

Pro Gly Phe Asp Gly Gly Tyr Leu Gln Arg Phe Ser Val Trp Tyr Thr
 515 520 525

Pro Leu Ala Lys Arg Pro Asp Arg Met His His Asp Trp Val Ser Leu
 530 535 540

Ala Val Pro Val Gly Ala Ala His Leu Leu Val Pro Gly Leu Gln Pro
 545 550 555 560

His Thr Gln Tyr Gln Phe Ser Val Leu Ala Gln Asn Lys Leu Gly Ser
 565 570 575

Gly Pro Phe Ser Glu Ile Val Leu Ser Ala Pro Glu Gly Leu Pro Thr
 580 585 590

Thr Pro Ala Ala Pro Gly Leu Pro Pro Thr Glu Ile Pro Pro Pro Leu
 595 600 605

Ser Pro Pro Arg Gly Leu Val Ala Val Arg Thr Pro Arg Gly Val Leu
 610 615 620

Leu His Trp Asp Pro Pro Glu Leu Val Pro Lys Arg Leu Asp Gly Tyr
 625 630 635 640

Val Leu Glu Gly Arg Gln Gly Ser Gln Gly Trp Glu Val Leu Asp Pro
 645 650 655

Ala Val Ala Gly Thr Glu Thr Glu Leu Leu Val Pro Gly Leu Ile Lys
 660 665 670

Asp Val Leu Tyr Glu Phe Arg Leu Val Ala Phe Ala Gly Ser Phe Val
 675 680 685

Ser Asp Pro Ser Asn Thr Ala Asn Val Ser Thr Ser Gly Leu Glu Val
 690 695 700
 Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Val Leu
 705 710 715 720
 Ala Gly Val Val Gly Gly Val Cys Phe Leu Gly Val Ala Val Leu Val
 725 730 735
 Ser Ile Leu Ala Gly Cys Leu Leu Asn Arg Arg Arg Ala Ala Arg Arg
 740 745 750
 Arg Arg Lys Arg Leu Arg Gln Asp Pro Pro Leu Ile Phe Ser Pro Thr
 755 760 765
 Gly Lys Ser Ala Ala Pro Ser Ala Leu Gly Ser Gly Ser Pro Asp Ser
 770 775 780
 Val Ala Lys Leu Lys Leu Gln Gly Ser Pro Val Pro Ser Leu Arg Gln
 785 790 795 800
 Ser Leu Leu Trp Gly Asp Pro Ala Gly Thr Pro Ser Pro His Pro Asp
 805 810 815
 Pro Pro Ser Ser Arg Gly Pro Leu Pro Leu Glu Pro Ile Cys Arg Gly
 820 825 830
 Pro Asp Gly Arg Phe Val Met Gly Pro Tyr Val Ala Ala Pro Gln Glu
 835 840 845
 Arg Ser Gly Arg Glu Gln Ala Glu Pro Arg Thr Pro Ala Gln Arg Leu
 850 855 860
 Ala Arg Ser Phe Asp Cys Ser Ser Ser Ser Pro Ser Gly Ala Pro Gln
 865 870 875 880
 Pro Leu Cys Ile Glu Asp Ile Ser Pro Val Ala Pro Pro Pro Ala Ala
 885 890 895
 Pro Pro Ser Pro Leu Pro Gly Pro Gly Pro Leu Leu Gln Tyr Leu Ser
 900 905 910
 Leu Pro Phe Phe Arg Glu Met Asn Val Asp Gly Asp Trp Pro Pro Leu
 915 920 925
 Glu Glu Pro Ser Pro Ala Ala Pro Pro Asp Tyr Met Asp Thr Arg Arg

<210> 11
 <211> 1163
 <212> PRT
 <213> Homo sapiens

<400> 11

Met Val Trp Cys Leu Gly Leu Ala Val Leu Ser Leu Val Ile Ser Gln
 1 5 10 15

Gly Ala Asp Gly Arg Gly Lys Pro Glu Val Val Ser Val Val Gly Arg
 20 25 30

Ala Glu Glu Ser Val Val Leu Gly Cys Asp Leu Leu Pro Pro Ala Gly
 35 40 45

Arg Pro Pro Leu His Val Ile Glu Trp Leu Arg Phe Gly Phe Leu Leu
 50 55 60

Pro Ile Phe Ile Gln Phe Gly Leu Tyr Ser Pro Arg Ile Asp Pro Asp
 65 70 75 80

Tyr Val Gly Arg Val Arg Leu Gln Lys Gly Ala Ser Leu Gln Ile Glu
 85 90 95

Gly Leu Arg Val Glu Asp Gln Gly Trp Tyr Glu Cys Arg Val Phe Phe
 100 105 110

Leu Asp Gln His Ile Pro Glu Asp Asp Phe Ala Asn Gly Ser Trp Val
 115 120 125

His Leu Thr Val Asn Ser Pro Pro Gln Phe Gln Glu Thr Pro Pro Ala
 130 135 140

Val Leu Glu Val Gln Glu Leu Glu Pro Val Thr Leu Arg Cys Val Ala
 145 150 155 160

Arg Gly Ser Pro Leu Pro His Val Thr Trp Lys Leu Arg Gly Lys Asp
 165 170 175

Leu Gly Gln Gly Gln Gly Gln Val Gln Val Gln Asn Gly Thr Leu Arg
 180 185 190

Ile Arg Arg Val Glu Arg Gly Ser Ser Gly Val Tyr Thr Cys Gln Ala
 195 200 205

Ser Ser Thr Glu Gly Ser Ala Thr His Ala Thr Gln Leu Leu Val Leu
 210 215 220

Gly Pro Pro Val Ile Val Val Pro Pro Lys Asn Ser Thr Val Asn Ala
 225 230 235 240

Ser Gln Asp Val Ser Leu Ala Cys His Ala Glu Ala Tyr Pro Ala Asn
 245 250 255

Leu Thr Tyr Ser Trp Phe Gln Asp Asn Ile Asn Val Phe His Ile Ser
 260 265 270

Arg Leu Gln Pro Arg Val Arg Ile Leu Val Asp Gly Ser Leu Arg Leu
 275 280 285

Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr Cys Val Pro Ser
 290 295 300

Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu Thr Val Leu
 305 310 315 320

Cys Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn Pro Pro Leu
 325 330 335

Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln Leu Asp Lys
 340 345 350

Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile Ile Ala Leu
 355 360 365

Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro Tyr Asn Ser
 370 375 380

Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu Leu Lys Ala
 385 390 395 400

Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu Glu Tyr Phe Gln Glu Val
 405 410 415

Gly Arg Glu Leu Leu Ile Pro Cys Ser Ala Gln Gly Asp Pro Pro Pro
 420 425 430

Val Val Ser Trp Thr Lys Val Gly Arg Gly Leu Gln Gly Gln Ala Gln
 435 440 445

Val Asp Ser Asn Ser Ser Leu Ile Leu Arg Pro Leu Thr Lys Glu Ala

Tyr Pro Ser Arg Thr Gln Leu Pro Gly Leu Leu Pro Gln Pro Val Leu
705 710 715 720

Ala Gly Val Val Gly Gly Val Cys Phe Leu Gly Val Ala Val Leu Val
725 730 735

Ser Ile Leu Ala Gly Cys Leu Leu Asn Arg Arg Arg Ala Ala Arg Arg
740 745 750

Arg Arg Lys Arg Leu Arg Gln Asp Pro Pro Leu Ile Phe Ser Pro Thr
755 760 765

Gly Lys Ser Ala Ala Pro Ser Ala Leu Gly Ser Gly Ser Pro Asp Ser
770 775 780

Val Ala Lys Leu Lys Leu Gln Gly Ser Pro Val Pro Ser Leu Arg Gln
785 790 795 800

Ser Leu Leu Trp Gly Asp Pro Ala Gly Thr Pro Ser Pro His Pro Asp
805 810 815

Pro Pro Ser Ser Arg Gly Pro Leu Pro Leu Glu Pro Ile Cys Arg Gly
820 825 830

Pro Asp Gly Arg Phe Val Met Gly Pro Tyr Val Ala Ala Pro Gln Glu
835 840 845

Arg Ser Gly Arg Glu Gln Ala Glu Pro Arg Thr Pro Ala Gln Arg Leu
850 855 860

Ala Arg Ser Phe Asp Cys Ser Ser Ser Ser Pro Ser Gly Ala Pro Gln
865 870 875 880

Pro Leu Cys Ile Glu Asp Ile Ser Pro Val Ala Pro Pro Pro Ala Ala
885 890 895

Pro Pro Ser Pro Leu Pro Gly Pro Gly Pro Leu Leu Gln Tyr Leu Ser
900 905 910

Leu Pro Phe Phe Arg Glu Met Asn Val Asp Gly Asp Trp Pro Pro Leu
915 920 925

Glu Glu Pro Ser Pro Ala Ala Pro Pro Asp Tyr Met Asp Thr Arg Arg
930 935 940

Cys Pro Thr Ser Ser Phe Leu Arg Ser Pro Glu Thr Pro Pro Val Ser
 945 950 955 960

Pro Arg Glu Ser Leu Pro Gly Ala Val Val Gly Ala Gly Ala Thr Ala
 965 970 975

Glu Pro Pro Tyr Thr Ala Leu Ala Asp Trp Thr Leu Arg Glu Arg Leu
 980 985 990

Leu Pro Gly Leu Leu Pro Ala Ala Pro Arg Gly Ser Leu Thr Ser Gln
 995 1000 1005

Ser Ser Gly Arg Gly Ser Ala Ser Phe Leu Arg Pro Pro Ser Thr
 1010 1015 1020

Ala Pro Ser Ala Gly Gly Ser Tyr Leu Ser Pro Ala Pro Gly Asp
 1025 1030 1035

Thr Ser Ser Trp Ala Ser Gly Pro Glu Arg Trp Pro Arg Arg Glu
 1040 1045 1050

His Val Val Thr Val Ser Lys Arg Arg Asn Thr Ser Val Asp Glu
 1055 1060 1065

Asn Tyr Glu Trp Asp Ser Glu Phe Pro Gly Asp Met Glu Leu Leu
 1070 1075 1080

Glu Thr Leu His Leu Gly Leu Ala Ser Ser Arg Leu Arg Pro Glu
 1085 1090 1095

Ala Glu Pro Glu Leu Gly Val Lys Thr Pro Glu Glu Gly Cys Leu
 1100 1105 1110

Leu Asn Thr Ala His Val Thr Gly Pro Glu Ala Arg Cys Ala Ala
 1115 1120 1125

Leu Arg Glu Glu Phe Leu Ala Phe Arg Arg Arg Arg Asp Ala Thr
 1130 1135 1140

Arg Ala Arg Leu Pro Ala Tyr Arg Gln Pro Val Pro His Pro Glu
 1145 1150 1155

Gln Ala Thr Leu Leu
 1160

<210> 12
 <211> 1030
 <212> DNA
 <213> Homo sapiens

<400> 12
 caggaactgg agcctgtgac cctgcgttgt gtggcccgtg gcagccccct gcctcatgtg 60
 acgtggaagc tccgaggaaa ggaccttggc cagggccagg gccagggtgca agtgcagaac 120
 gggacgctgc ggatccgccg ggtagagcga ggcagctctg gggctctacac ctgccaagcc 180
 tccagcactg agggcagcgc caccacgccc acccagctgc tagtgctagg acccccagtc 240
 atcgtggtgc cccccaagaa cagcacagtc aatgcctccc aggatgtttc attggcctgc 300
 catgctgagg cataccctgc taacctcacc tacagctggc tccaggacaa catcaatgtc 360
 ttccacatta gccgcctgca gcccgggtg cggatcctgg tggacgggag cctgcggctg 420
 ctggccaccc agcctgatga tgccggctgc tacacctgtg tgcccagcaa tggcctcctg 480
 catccaccct cagcctctgc ctacctcact gtgctctgta agcctgacct cagcttctcc 540
 ctcagcctgc tcccttcccc tgggccaggc caagcccctc tcccccaact tgccactatt 600
 ttccccaga cccagcccag gtgacagcta tgccctctga gacaccctg cccataggca 660
 tgccgggggt gatccgctgc ccggttcgtg ccaaccccc actgctcttt gtcagctgga 720
 ccaaggatgg aaaggccctg cagctggaca agaagagaga tgatctctgg ggaaaatgat 780
 ggcaaagagt caagaaggag aactgaagtt tctttcgtgt gatgactggg aaattgtgtg 840
 tcccggggga atacacactt cttaccagtt ccctggctgg tcccagggca cagaaggctc 900
 actgatcatc gccctgggga acgaggatgc cctgggagaa tactcctgca cccctacaa 960
 cagtcttggc accgccgggc cctctcctgt gaccgcgtg ctgctcaagg ctccccagc 1020
 ttttatagag 1030

<210> 13
 <211> 939
 <212> DNA
 <213> Homo sapiens

<400> 13
 caggaactgg agcctgtgac cctgcgttgt gtggcccgtg gcagccccct gcctcatgtg 60
 acgtggaagc tccgaggaaa ggaccttggc cagggccagg gccagggtgca agtgcagaac 120
 gggacgctgc ggatccgccg ggtagagcga ggcagctctg gggctctacac ctgccaagcc 180
 tccagcactg agggcagcgc caccacgccc acccagctgc tagtgctagg acccccagtc 240
 atcgtggtgc cccccaagaa cagcacagtc aatgcctccc aggatgtttc attggcctgc 300
 catgctgagg cataccctgc taacctcacc tacagctggc tccaggacaa catcaatgtc 360

```

ttccacatta gccgcctgca gccccgggtg cggatcctgg tggacgggag cctgcggctg 420
ctggccaccc agcctgatga tgccggctgc tacacctgtg tgcccagcaa tggcctcctg 480
catccaccct cagcctctgc ctacctcact gtgctctacc cagcccaggt gacagctatg 540
cctcctgaga caccctgcc cataggcatg ccgggggtga tccgctgccc ggttcgtgcc 600
aacccccac tgctctttgt cagctggacc aaggatggaa aggccttgca gctggacaag 660
aagagagatg atctccgggg aaaatgatgg caaagagtca agaaggagaa ctgaagtttc 720
tttcgtgtga tgactgggaa attgtgtgtc ccgggggaac acacacttct taccagttcc 780
ctggctggtc ccagggcaca gaaggctcac tgatcatcgc cctggggaac gaggatgccc 840
tgggagaata ctctgcacc cccctacaac agtcttggtg ccgccgggcc ctctcctgtg 900
accgcgtgc tgctcaaggc tccccagct tttatagag 939

```

```

<210> 14
<211> 832
<212> DNA
<213> Homo sapiens

```

```

<400> 14
caggaactgg agcctgtgac cctgcgttgt gtggcccgtg gcagccccct gcctcatgtg 60
acgtggaagc tccgaggaaa ggaccttggc cagggccagg gccaggtgca agtgcagaac 120
gggacgctgc ggatccgccg ggtagagcga ggcagctctg gggctctacac ctgccaagcc 180
tccagcactg agggcagcgc caccacgcc acccagctgc tagtgctagg acccccagtc 240
atcgtggtgc ccccaagaa cagcacagtc aatgcctccc aggatgtttc attggcctgc 300
catgctgagg catacctgc taacctcacc tacagctggt tccaggacaa catcaatgtc 360
ttccacatta gccgcctgca gccccgggtg cggatcctgg tggacgggag cctgcggctg 420
ctggccaccc agcctgatga tgccggctgc tacacctgtg tgcccagcaa tggcctcctg 480
catccaccct cagcctctgc ctacctcact gtgctctctg gaccaaggat ggaaaggccc 540
tgcagctgga caagaagaga gatgatctct ggggaaaatg atggcaaaga gtcaagaagg 600
agaactgaag tttctttcgt gtgatgactg ggaaattgtg tgtcccgggg gaacacacac 660
ttcttaccag ttccctggct ggtcccaggg cacagaaggc tcaatgatca tcgccctggg 720
gaacgaggat gccctgggag aatactcctg caccctctac aacagtcttg gtaccgccgg 780
gccctctcct gtgaccgcg tgctgtctaa ggctcccca gcttttatag ag 832

```

```

<210> 15
<211> 822
<212> DNA
<213> Homo sapiens

```

<400> 15
 caggaactgg agcctgtgac cctgcgttgt gtggcccggtg gcagccccct gcctcatgtg 60
 acgtggaagc tccgaggaaa ggaccttggc cagggccagg gccagggtgca agtgcagaac 120
 gggacgctgc ggatccgccc ggtagagcga ggcagctctg gggctctacac ctgccaagcc 180
 tccagcactg agggcagcgc caccacgccc acccagctgc tagtgctagg acccccagtc 240
 atcgtgggtgc cccccaagaa cagcacagtc aatgcctccc aggatgtttc attggcctgc 300
 catgctgagg cataccctgc taacctcacc tacagctggc tccaggacaa catcaatgtc 360
 ttccacatta gccgcctgca gccccgggtg cggatcctgg tggacgggag cctgcggctg 420
 ctggccaccc agcctgatga tgccggctgc tacacctgtg tgcccagcaa tggcctcctg 480
 catccaccct cagcctctgc ctacctcact gtgctctacc cagcccaggc gacagctatg 540
 cctcctgaga caccctgcc cataggcatg ccgggggtga tccgctgccc ggttcgtgcc 600
 aacccccac tgctctttgt cagctggacc aaggatggaa aggccctgca gctggacaag 660
 ttccctggct ggtcccaggg cacagaaggc tcaactgatca tcgccctggg gaacgaggat 720
 gccctgggag aataactcctg caccctctac aacagtcttg gtaccgccgg gccctctcct 780
 gtgaccgcgc tgctgctcaa ggctcccca gcttttatag ag 822

<210> 16
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 16
 ctctgcctac ctcaactgtgc tctaccagc ccagggtgaca gctatgcctc ctgagacacc 60
 cctgcccata ggcattgccg gggatgatccg ctgcccgggt cgtgccaacc ccccaactgct 120
 ctttgtcagc tggaccaagg atggaaaggc cctgcagctg gacaagttcc ctggctggct 180
 ggtcccaggg cacagaaggc tcaactgatca tcgccctggg ga 222

<210> 17
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 17
 ctctgcctac ctcaactgtgc tctaccagc ccagggtgaca gctatgcctc ctgagacacc 60
 cctgcccata ggcattgccg gggatgatccg ctgcccgggt cgtgccaacc ccccaactgct 120
 ctttgtcagc tggaccaagg atggaaaggc cctgcagctg gacaagttcc ctggctggct 180
 ggtcccaggg cacagaaggc tcaactgatca tcgccctggg ga 222

<210> 18

<211> 226
 <212> DNA
 <213> Homo sapiens

<400> 18
 ctctgcctac ctactgtgc tctctggacc aaggatggaa aggccttgca gctggacaag 60
 aagagagatg atctggggaa aatgatggca aagagtcaag aaggagaact gaagtttctt 120
 tcgtgtgatg actgggaaat tgtgtgtccc gggggaacac acacttctta ccagttccct 180
 ggctggtccc agggcacaga aggctcactg atcatcgccc tgggga 226

<210> 19
 <211> 426
 <212> DNA
 <213> Homo sapiens

<400> 19
 ctctgcctac ctactgtgc tctgtaagcc tgacctcagc ttctccctca gcctgctccc 60
 ttcccttggg ccaggccaag cccctctccc ccaacttgcc actattttcc ccagacca 120
 gccagggtga cagctatgcc tcctgagaca ccctgccc taggcatgcc gggggtgatc 180
 cgctgcccg ttcgtgcca cccccactg ctctttgtca gctggacca ggatggaaag 240
 gccctgcagc tggacaagaa gagagatgat ctctggggaa aatgatggca aagagtcaag 300
 aaggagaact gaagtttctt tcgtgtgatg actgggaaat tgtgtgtccc gggggaacac 360
 acacttctta ccagttccct ggctggtccc agggcacaga aggctcactg atcatcgccc 420
 tgggga 426

<210> 20
 <211> 336
 <212> DNA
 <213> Homo sapiens

<400> 20
 ctctgcctac ctactgtgc tctacccagc ccagggtgaca gctatgcctc ctgagacacc 60
 cctgcccata ggcattgccg ggggtgatccg ctgcccgggt cgtgccaacc cccactgct 120
 ctttgtcagc tggaccaagg atggaaaggc cctgcagctg gacaagaaga gagatgatct 180
 ccggggaaaa tgatggcaaa gagtcaagaa ggagaactga agtttctttc gtgtgtgatg 240
 actgggaaat tgtgtgtccc gggggaacac acacttctta ccagttccct ggctggtccc 300
 agggcacaga aggctcactg atcatcgccc tgggga 336

<210> 21
 <211> 332
 <212> DNA
 <213> Homo sapiens

```

<400> 21
ctctgcctac ctactgtgc tctaccacgc ccaggtgaca gctatgcctc ctgagacacc 60
cctgcccata ggcatgccgg gggatgatccg ctgcccggtt cgtgcccaacc cccactgct 120
ctttgtcagc tggaccaagg atggaaaggc cctgcagctg gacaagaaga gagatgatct 180
cggggaaaat gatggcaaag agtcaagaag gagaactgaa gtttctttcg tgtgatgact 240
gggaaattgt gtgtcccggg ggaaacacac ttcttaccag ttccctgggt ggtcccaggg 300
cacagaaggc tactgatca tcgccctggg ga 332

```

```

<210> 22
<211> 141
<212> PRT
<213> Homo sapiens

```

```

<400> 22
Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
1          5          10          15
Cys Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr Leu
          20          25          30
Thr Val Leu Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr Pro
          35          40          45
Leu Pro Ile Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala Asn
          50          55          60
Pro Pro Leu Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu Gln
65          70          75          80
Leu Asp Lys Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu Ile
          85          90          95
Ile Ala Leu Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr Pro
          100          105          110
Tyr Asn Ser Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val Leu
          115          120          125
Leu Lys Ala Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu
          130          135          140

```

```

<210> 23
<211> 142
<212> PRT
<213> Homo sapiens

```

<400> 23

Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
 1 5 10 15

Cys Val Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr
 20 25 30

Leu Thr Val Leu Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr
 35 40 45

Pro Leu Pro Ile Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala
 50 55 60

Asn Pro Pro Leu Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu
 65 70 75 80

Gln Leu Asp Lys Phe Pro Gly Trp Ser Gln Gly Thr Glu Gly Ser Leu
 85 90 95

Ile Ile Ala Leu Gly Asn Glu Asp Ala Leu Gly Glu Tyr Ser Cys Thr
 100 105 110

Pro Tyr Asn Ser Leu Gly Thr Ala Gly Pro Ser Pro Val Thr Arg Val
 115 120 125

Leu Leu Lys Ala Pro Pro Ala Phe Ile Glu Arg Pro Lys Glu
 130 135 140

<210> 24

<211> 71

<212> PRT

<213> Homo sapiens

<400> 24

Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
 1 5 10 15

Cys Val Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr
 20 25 30

Leu Thr Val Leu Ser Gly Pro Arg Met Glu Arg Pro Cys Ser Trp Thr
 35 40 45

Arg Arg Glu Met Ile Ser Gly Glu Asn Asp Gly Lys Glu Ser Arg Arg
 50 55 60

Arg Thr Glu Val Ser Phe Val
65 70

<210> 25
<211> 71
<212> PRT
<213> Homo sapiens

<400> 25

Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
1 5 10 15

Cys Val Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr
20 25 30

Leu Thr Val Leu Cys Lys Pro Asp Leu Ser Phe Ser Leu Ser Leu Leu
35 40 45

Pro Ser Pro Gly Pro Gly Gln Ala Pro Leu Pro Gln Leu Ala Thr Ile
50 55 60

Phe Pro Gln Thr Gln Pro Arg
65 70

<210> 26
<211> 100
<212> PRT
<213> Homo sapiens

<400> 26

Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
1 5 10 15

Cys Val Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr
20 25 30

Leu Thr Val Leu Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr
35 40 45

Pro Leu Pro Ile Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala
50 55 60

Asn Pro Pro Leu Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu
65 70 75 80

Gln Leu Asp Lys Lys Arg Asp Asp Leu Arg Gly Lys Trp Gln Arg Val
85 90 95

Lys Lys Glu Asn
100

<210> 27
<211> 86
<212> PRT
<213> Homo sapiens

<400> 27

Ser Leu Arg Leu Leu Ala Thr Gln Pro Asp Asp Ala Gly Cys Tyr Thr
1 5 10 15

Cys Val Pro Ser Asn Gly Leu Leu His Pro Pro Ser Ala Ser Ala Tyr
20 25 30

Leu Thr Val Leu Tyr Pro Ala Gln Val Thr Ala Met Pro Pro Glu Thr
35 40 45

Pro Leu Pro Ile Gly Met Pro Gly Val Ile Arg Cys Pro Val Arg Ala
50 55 60

Asn Pro Pro Leu Leu Phe Val Ser Trp Thr Lys Asp Gly Lys Ala Leu
65 70 75 80

Gln Leu Asp Lys Gly Ile
85

<210> 28
<211> 2250
<212> DNA
<213> Homo sapiens

<400> 28

atggcgagga agttatctgt aatcttgatc ctgacctttg ccctctctgt cacaaatccc	60
cttcatgaac taaaagcagc tgctttcccc cagaccactg agaaaattag tccgaattgg	120
gaatctggca ttaatgttga cttggcaatt tccacacggc aatatcatct acaacagctt	180
ttctaccgct atggagaaaa taattctttg tcagttgaag gggtcagaaa attacttcaa	240
aatataggca tagataagat taaaagaatc catatacacc atgaccacga ccatcactca	300
gaccacgagc atcactcaga ccatgagcgt cactcagacc atgagcatca ctcagaccac	360
gagcatcact ctgaccataa tcatgctgct tctggtaaaa ataagcgaaa agctctttgc	420
ccagaccatg actcagatag ttcaggtaaa gatcctagaa acagccaggg gaaaggagct	480
caccgaccag aacatgccag tggtagaagg aatgtcaagg acagtgttag tgctagttaa	540

gtgacctcaa	ctgtgtacaa	cactgtctct	gaaggaactc	actttctaga	gacaatagag	600
actccaagac	ctggaaaact	cttccccaaa	gatgtaagca	gctccactcc	acccagtgtc	660
acatcaaaga	gccgggtgag	ccggctggct	ggtaggaaaa	caaatgaatc	tgtgagttag	720
ccccgaaaag	gctttatgta	ttccagaaac	acaaatgaaa	atcctcagga	gtgtttcaat	780
gcatcaaagc	tactgacatc	tcatggcatg	ggcatccagg	ttccgctgaa	tgcaacagag	840
ttcaactatc	tctgtccagc	catcatcaac	caaattgatg	ctagatcttg	tctgattcat	900
acaagtgaaa	agaaggctga	aatccctcca	aagacctatt	cattacaaat	agcctggggt	960
ggtaggtttta	tagccatttc	catcatcagt	ttcctgtctc	tgctgggggt	tatcttagtg	1020
cctctcatga	atcggtgtgt	tttcaaattt	ctcctgagtt	tccttgtggc	actggccggt	1080
gggactttga	gtgggtgatgc	ttttttacac	cttcttcac	attctcatgc	aagtcaccac	1140
catagtcata	gccatgaaga	accagcaatg	gaaatgaaaa	gaggaccact	tttcagtcat	1200
ctgtcttctc	aaaacataga	agaaagtgcc	tattttgatt	ccacgtggaa	gggtctaaca	1260
gctctaggag	gcctgtattt	catgtttctt	gttgaacatg	tcctcacatt	gatcaaacaa	1320
tttaaagata	agaagaaaaa	gaatcagaag	aaacctgaaa	atgatgatga	tgtggagatt	1380
aagaagcagt	tgtccaagta	tgaatctcaa	ctttcaacaa	atgaggagaa	agtagatata	1440
gatgatcgaa	ctgaaggcta	tttacgagca	gactcacaag	agccctccca	ctttgattct	1500
cagcagcctg	cagtcttgga	agaagaagag	gtcatgatag	ctcatgctca	tccacaggaa	1560
gtctacaatg	aatatgtacc	cagaggggtgc	aagaataaat	gccattcaca	tttccacgat	1620
acactcggcc	agtcagacga	tctcattcac	caccatcatg	actaccatca	tattctccat	1680
catcaccacc	acaaaaacca	ccatcctcac	agtcacagcc	agcgctactc	tcgggaggag	1740
ctgaaagatg	ccggcgctgc	cactttggcc	tggatgggtga	taatgggtga	tggcctgcac	1800
aatttcagcg	atggcctagc	aattgggtgct	gcttttactg	aaggcttata	aagtggttta	1860
agtacttctg	ttgctgtgtt	ctgtcatgag	ttgcctcatg	aattaggtga	ctttgctgtt	1920
ctactaaagg	ctggcatgac	cgttaagcag	gctgtccttt	ataatgcatt	gtcagccatg	1980
ctggcgatc	ttggaatggc	aacaggaatt	ttcattggtc	attatgctga	aaatgtttct	2040
atgtggatat	ttgcacttac	tgctggctta	ttcatgtatg	ttgctctggg	tgatatggta	2100
cctgaaatgc	tgacacaatga	tgctagttag	catggatgta	gccgctgggg	gtattttctt	2160
ttacagaatg	ctgggatgct	tttgggtttt	ggaattatgt	tacttatttc	catatttgaa	2220
cataaaatcg	tgtttcgtat	aaattttctag				2250

<210> 29

<211> 749

<212> PRT

<213> Homo sapiens

<400> 29

Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu Thr Phe Ala Leu Ser
 1 5 10 15

Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
 20 25 30

Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
 35 40 45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
 50 55 60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65 70 75 80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
 85 90 95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
 100 105 110

Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asn His
 115 120 125

Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu Cys Pro Asp His Asp
 130 135 140

Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser Gln Gly Lys Gly Ala
 145 150 155 160

His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
 165 170 175

Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
 180 185 190

Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
 195 200 205

Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser Val Thr Ser Lys Ser
 210 215 220

Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
225 230 235 240

Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr Asn Glu Asn Pro Gln
245 250 255

Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
260 265 270

Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
275 280 285

Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
290 295 300

Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu Gln Ile Ala Trp Val
305 310 315 320

Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
325 330 335

Val Ile Leu Val Pro Leu Met Asn Arg Val Phe Phe Lys Phe Leu Leu
340 345 350

Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
355 360 365

Leu His Leu Leu Pro His Ser His Ala Ser His His His Ser His Ser
370 375 380

His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser His
385 390 395 400

Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr Phe Asp Ser Thr Trp
405 410 415

Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
420 425 430

His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
435 440 445

Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
450 455 460

Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu Glu Lys Val Asp Thr

465		470		475		480									
Asp	Asp	Arg	Thr	Glu	Gly	Tyr	Leu	Arg	Ala	Asp	Ser	Gln	Glu	Pro	Ser
				485					490					495	
His	Phe	Asp	Ser	Gln	Gln	Pro	Ala	Val	Leu	Glu	Glu	Glu	Glu	Val	Met
			500					505						510	
Ile	Ala	His	Ala	His	Pro	Gln	Glu	Val	Tyr	Asn	Glu	Tyr	Val	Pro	Arg
		515					520					525			
Gly	Cys	Lys	Asn	Lys	Cys	His	Ser	His	Phe	His	Asp	Thr	Leu	Gly	Gln
	530					535					540				
Ser	Asp	Asp	Leu	Ile	His	His	His	His	Asp	Tyr	His	His	Ile	Leu	His
545					550					555					560
His	His	His	His	Gln	Asn	His	His	Pro	His	Ser	His	Ser	Gln	Arg	Tyr
				565					570					575	
Ser	Arg	Glu	Glu	Leu	Lys	Asp	Ala	Gly	Val	Ala	Thr	Leu	Ala	Trp	Met
			580					585					590		
Val	Ile	Met	Gly	Asp	Gly	Leu	His	Asn	Phe	Ser	Asp	Gly	Leu	Ala	Ile
		595					600					605			
Gly	Ala	Ala	Phe	Thr	Glu	Gly	Leu	Ser	Ser	Gly	Leu	Ser	Thr	Ser	Val
	610					615					620				
Ala	Val	Phe	Cys	His	Glu	Leu	Pro	His	Glu	Leu	Gly	Asp	Phe	Ala	Val
625					630					635					640
Leu	Leu	Lys	Ala	Gly	Met	Thr	Val	Lys	Gln	Ala	Val	Leu	Tyr	Asn	Ala
				645					650					655	
Leu	Ser	Ala	Met	Leu	Ala	Tyr	Leu	Gly	Met	Ala	Thr	Gly	Ile	Phe	Ile
			660					665					670		
Gly	His	Tyr	Ala	Glu	Asn	Val	Ser	Met	Trp	Ile	Phe	Ala	Leu	Thr	Ala
		675					680					685			
Gly	Leu	Phe	Met	Tyr	Val	Ala	Leu	Val	Asp	Met	Val	Pro	Glu	Met	Leu
	690					695					700				
His	Asn	Asp	Ala	Ser	Asp	His	Gly	Cys	Ser	Arg	Trp	Gly	Tyr	Phe	Phe
705					710					715					720

Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu Ile
 725 730 735

Ser Ile Phe Glu His Lys Ile Val Phe Arg Ile Asn Phe
 740 745

<210> 30
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer used to amplify IGSF9

<400> 30
 tcttatcttc tctccgaccg ggaag 25

<210> 31
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer used to amplify IGSF9

<400> 31
 gccacagggc tgatgtcttc aatgc 25

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer used for amplification of the GAPDH gene

<400> 32
 accacagtcc atgccatcac 20

<210> 33
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer used for amplification of the GAPDH gene

<400> 33
 tccaccaccc tggtgctgta 20

<210> 34
 <211> 25
 <212> DNA

<213> Artificial Sequence

<220>

<223> Primer used to show the expression of IGSF9 in human tumor cells

<400> 34

tcttatcttc tctccgaccg ggaag 25

<210> 35

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer used to show the expression of IGSF9 in human tumor cells

<400> 35

gccacagggc tgatgtcttc aatgc 25

<210> 36

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer used for amplification of the GAPDH gene

<400> 36

accacagtcc atgccatcac 20

<210> 37

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer used for amplification of the GAPDH gene

<400> 37

tccaccaccc tgttgctgta 20

<210> 38

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer used to amplify IGSF9

<400> 38

gtgggccggg ggctgcaagg ccag 24

<210> 39

<211> 24

<212> DNA

<213> Artificial Sequence

<220>
 <223> Primer used to amplify IGSF9

 <400> 39
 agcagacaag acgatttcgc tgaa 24

 <210> 40
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to flank the region of IGSF9

 <400> 40
 caggaactgg agcctgtgac cct 23

 <210> 41
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to flank the region of IGSF9

 <400> 41
 ctctataaaa gctgggggag cctt 24

 <210> 42
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to amplify LIV-1

 <400> 42
 ggatggtgat aatgggtgat ggc 23

 <210> 43
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to amplify LIV-1

 <400> 43
 ggtcactagc atcattgtgc agc 23